

1 / 2 5

SEQUENCE LISTING

<110> CHUGAI SEIYAKU KABUSHIKI KAISHA

<120> AGONIST ANTIBODIES AGAINST HETEROMERIC RECEPTORS

<130> C1-A0228P

<150> JP 2002-377078

<151> 2002-12-26

<160> 30

<170> PatentIn version 3.1

<210> 1

<211> 120

<212> PRT

<213> Mus musculus

<400> 1

Gln Val Gln Leu Lys Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Ala

1 5 10 15

Ser Val Arg Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Phe Tyr

20 25 30

Trp Ile Asn Trp Ile Lys Gln Arg Pro Glu Gln Gly Leu Glu Trp Ile

2 / 2 5

| | | |
|---|-----|-----|
| 35 | 40 | 45 |
| Gly Arg Ile Asp Pro Tyr Asp Ser Glu Thr Arg Tyr Asn Gln Lys Phe | | |
| 50 | 55 | 60 |
| Lys Asp Lys Ala Ile Leu Thr Val Asp Lys Tyr Ser Ser Thr Ala Tyr | | |
| 65 | 70 | 75 |
| Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys | | |
| 85 | 90 | 95 |
| Ala Lys Gly Val Tyr Asp Gly His Trp Phe Phe Asp Val Trp Gly Ala | | |
| 100 | 105 | 110 |
| Gly Thr Ser Val Thr Val Ser Ser | | |
| 115 | 120 | |

<210> 2

<211> 108

<212> PRT

<213> Mus musculus

<400> 2

| | | |
|---|----|----|
| Asp Ile Val Met Thr Gln Ser His Lys Phe Met Ser Thr Ser Val Gly | | |
| 1 | 5 | 10 |
| 15 | | |
| Asp Arg Val Ser Ile Thr Cys Lys Ala Ser Gln Asp Val Ser Thr Ala | | |
| 20 | 25 | 30 |
| Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile | | |
| 35 | 40 | 45 |
| Tyr Ser Ala Ser Tyr Arg Tyr Thr Gly Val Pro Ala Arg Phe Ser Gly | | |
| 50 | 55 | 60 |

3 / 2 5

Ser Gly Ser Gly Thr Asp Phe Thr Phe Thr Ile Ser Ser Val Gln Thr
65 70 75 80
Glu Asp Leu Ala Val Tyr Tyr Cys Gln Gln His Tyr Arg Thr Pro Pro
 85 90 95
Thr Phe Gly Gly Gly Thr Lys Leu Glu Leu Lys Arg
 100 105

<210> 3

<211> 119

<212> PRT

<213> Mus musculus

<400> 3

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Glu Lys Pro Gly Ala
1 5 10 15
Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ser Phe Ser Asp Tyr
 20 25 30
Asn Met Asn Trp Val Lys Gln Ser Asn Gly Lys Ser Leu Glu Trp Ile
 35 40 45
Gly Asn Ile Asp Pro Tyr Asn Gly Asp Thr Asn Tyr Asn Gln Lys Phe
 50 55 60
Lys Gly Lys Ala Thr Leu Thr Leu Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80
Met Gln Leu Lys Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys
 85 90 95
Ala Arg Ser Arg Gly Trp Leu Leu Pro Phe Ala Tyr Trp Gly Gln Gly

4 / 2 5

100

105

110

Thr Leu Val Thr Val Ser Ala

115

<210> 4

<211> 108

<212> PRT

<213> Mus musculus

<400> 4

Asp Ile Leu Met Thr Gln Ser Gln Lys Phe Met Ser Thr Ser Val Gly

1 5 10 15

Asp Arg Val Ser Val Thr Cys Lys Ala Ser Gln Asn Val Gly Ile Asn

20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Ala Leu Ile

35 40 45

Tyr Ser Ala Ser Tyr Arg Tyr Ser Gly Val Pro Asp Arg Phe Thr Gly

50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Val Gln Ser

65 70 75 80

Glu Asp Leu Ala Glu Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Leu

85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys Arg

100 105

<210> 5

5 / 2 5

<211> 117

<212> PRT

<213> Mus musculus

<400> 5

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Arg Pro Gly Val

1 5 10 15

Ser Val Lys Ile Ser Cys Lys Gly Ser Gly Tyr Thr Phe Thr Asp Tyr

20 25 30

Ala Ile His Trp Val Arg Gln Ser His Ala Gln Ser Leu Glu Trp Ile

35 40 45

Gly Val Ile Gly Thr Tyr Ser Gly Asn Arg Asn Tyr Asn Gln Lys Phe

50 55 60

Lys Gly Lys Ala Thr Met Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr

65 70 75 80

Met Glu Leu Ala Arg Leu Thr Ser Glu Asp Ser Ala Ile Tyr Tyr Cys

85 90 95

Ala Arg Ser Ala Gly Tyr Ser Leu Asp Phe Trp Gly Gln Gly Thr Ser

100 105 110

Val Thr Val Ser Ser

115

<210> 6

<211> 112

<212> PRT

<213> Mus musculus

<400> 6

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Val | Val | Met | Thr | Gln | Thr | Pro | Leu | Thr | Leu | Ser | Val | Thr | Ile | Gly |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Gln | Pro | Ala | Ser | Ile | Ser | Cys | Lys | Ser | Ser | Gln | Ser | Leu | Leu | Asp | Ser |
| | | | 20 | | | | | 25 | | | | | | 30 | |
| Asp | Gly | Lys | Thr | Tyr | Leu | Asn | Trp | Leu | Leu | Gln | Arg | Pro | Gly | Gln | Ser |
| | | 35 | | | | | 40 | | | | | 45 | | | |
| Pro | Lys | Arg | Leu | Ile | Tyr | Leu | Val | Ser | Lys | Leu | Asp | Ser | Gly | Val | Pro |
| | 50 | | | | | 55 | | | | | 60 | | | | |
| Asp | Arg | Phe | Thr | Gly | Ser | Gly | Ser | Gly | Thr | Asp | Phe | Thr | Leu | Lys | Ile |
| 65 | | | | 70 | | | | | 75 | | | | | 80 | |
| Ser | Arg | Val | Glu | Ala | Glu | Asp | Leu | Gly | Val | Tyr | Tyr | Cys | Trp | Gln | Gly |
| | | | 85 | | | | | | 90 | | | | | 95 | |
| Lys | His | Phe | Pro | Trp | Thr | Phe | Gly | Gly | Gly | Thr | Lys | Leu | Glu | Ile | Lys |
| | | | 100 | | | | | 105 | | | | | | 110 | |

<210> 7

<211> 119

<212> PRT

<213> Mus musculus

<400> 7

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Val | Gln | Leu | Gln | Gln | Ser | Gly | Gly | Glu | Leu | Val | Arg | Pro | Gly | Thr |
| 1 | | | | 5 | | | | | 10 | | | | | 15 | |
| Ser | Val | Lys | Val | Ser | Cys | Lys | Ala | Ser | Gly | Tyr | Ala | Phe | Thr | Asn | Tyr |

7 / 2 5

| | | |
|---|-----|-----|
| 20 | 25 | 30 |
| Leu Ile Glu Trp Ile Arg Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile | | |
| 35 | 40 | 45 |
| Gly Val Ile Asn Pro Gly Ser Gly Asn Ser Lys Ser Ser Lys Asn Leu | | |
| 50 | 55 | 60 |
| Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Asn Thr Ala Tyr | | |
| 65 | 70 | 75 |
| Met Gln Leu Ser Ser Leu Thr Ser Asp Asp Ser Ala Val Tyr Phe Cys | | |
| 85 | 90 | 95 |
| Ala Arg Ser Gly Val Tyr Gly Ser Ser Pro Asp Tyr Trp Gly Gln Gly | | |
| 100 | 105 | 110 |
| Thr Thr Leu Thr Val Ser Ser | | |
| 115 | | |

<210> 8

<211> 113

<212> PRT

<213> Mus musculus

<400> 8

| | | |
|---|----|----|
| Asp Val Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Ile Gly | | |
| 1 | 5 | 10 |
| Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser | | |
| 20 | 25 | 30 |
| Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser | | |
| 35 | 40 | 45 |

8 / 2 5

Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro

50

55

60

Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile

65

70

75

80

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly

85

90

95

Thr His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys

100

105

110

Arg

<210> 9

<211> 118

<212> PRT

<213> Mus musculus

<400> 9

Gln Val Gln Leu Gln Gln Ser Gly Gly Glu Leu Val Arg Pro Gly Thr

1

5

10

15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ala Phe Thr Asn Tyr

20

25

30

Leu Ile Glu Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Asp Trp Ile

35

40

45

Gly Met Ile Asn Pro Gly Ser Gly Gly Thr Lys Cys Asn Lys Lys Phe

50

55

60

Lys Gly Lys Val Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr

9 / 2 5

65 70 75 80
Met His Leu Ser Ser Leu Thr Ser Asp Asp Ser Ala Val Tyr Phe Cys
 85 90 95
Ala Arg Ser Gly Trp Val Ser Ala Met Asp Tyr Trp Gly Gln Gly Thr
 100 105 110
Ser Val Thr Val Ser Ser
 115

<210> 10
<211> 113
<212> PRT
<213> Mus musculus

<400> 10
Asp Ile Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Ile Gly
1 5 10 15
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
 20 25 30
Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser
 35 40 45
Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
 50 55 60
Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80
Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly
 85 90 95

1 0 / 2 5

Thr His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Leu Glu Leu Lys

100

105

110

Arg

<210> 11

<211> 118

<212> PRT

<213> Mus musculus

<400> 11

Gln Val Gln Leu Gln Gln Ser Gly Val Glu Leu Val Arg Pro Gly Thr

1

5

10

15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ala Phe Thr Asn Tyr

20

25

30

Leu Ile Glu Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Asp Trp Ile

35

40

45

Gly Met Ile Asn Pro Gly Ser Gly Gly Thr Lys Cys Asn Lys Lys Phe

50

55

60

Lys Gly Lys Val Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr

65

70

75

80

Met His Leu Ser Ser Leu Thr Ser Asp Asp Ser Ala Val Tyr Phe Cys

85

90

95

Ala Arg Ser Gly Trp Val Tyr Ala Met Asp Tyr Trp Gly Gln Gly Thr

100

105

110

Ser Val Thr Val Ser Ser

115

<210> 12

<211> 113

<212> PRT

<213> Mus musculus

<400> 12

Asp Val Leu Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Ile Gly

1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser

20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser

35 40 45

Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro

50 55 60

Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile

65 70 75 80

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly

85 90 95

Thr His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Leu Glu Leu Lys

100 105 110

Arg

<210> 13

1 2 / 2 5

<211> 117

<212> PRT

<213> Mus musculus

<400> 13

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Arg Pro Gly Val

1 5 10 15

Ser Val Lys Ile Ser Cys Lys Gly Ser Gly Tyr Arg Phe Thr Asp Tyr

20 25 30

Ala Ile His Trp Val Lys Gln Ser His Ala Lys Ser Leu Glu Trp Ile

35 40 45

Gly Val Ile Ser Thr Tyr Tyr Gly Asn Thr Arg Tyr Asn Gln Lys Phe

50 55 60

Lys Gly Lys Ala Thr Met Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr

65 70 75 80

Met Glu Leu Ala Ser Leu Thr Ser Glu Asp Ser Val Ile Tyr Tyr Cys

85 90 95

Ala Arg Ser Gly Gly Ser Leu Met Asp Tyr Trp Gly Gln Gly Thr Ser

100 105 110

Val Thr Val Ser Ser

115

<210> 14

<211> 113

<212> PRT

<213> Mus musculus

1 3 / 2 5

<400> 14

Asp Ile Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Ile Gly
1 5 10 15
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
 20 25 30
Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser
 35 40 45
Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
 50 55 60
Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80
Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly
 85 90 95
Thr His Phe Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 100 105 110
Arg

<210> 15

<211> 117

<212> PRT

<213> Mus musculus

<400> 15

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Arg Pro Gly Val

1 4 / 2 5

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 | 5 | 10 | 15 | | | | | | | | | | | | |
| Ser | Val | Lys | Ile | Ser | Cys | Lys | Gly | Ser | Gly | Tyr | Thr | Phe | Thr | Asp | Tyr |
| 20 | 25 | 30 | | | | | | | | | | | | | |
| Ala | Met | His | Trp | Val | Lys | Gln | Ser | His | Ala | Lys | Ser | Leu | Glu | Trp | Ile |
| 35 | 40 | 45 | | | | | | | | | | | | | |
| Gly | Val | Ile | Ser | Thr | Tyr | Tyr | Ser | Asn | Thr | Arg | Tyr | Asn | Gln | Lys | Phe |
| 50 | 55 | 60 | | | | | | | | | | | | | |
| Lys | Gly | Lys | Ala | Thr | Met | Thr | Val | Asp | Lys | Ser | Ser | Ser | Thr | Ala | Tyr |
| 65 | 70 | 75 | 80 | | | | | | | | | | | | |
| Met | Glu | Leu | Ala | Arg | Leu | Thr | Ser | Glu | Asp | Ser | Ala | Ile | Tyr | Tyr | Cys |
| 85 | 90 | 95 | | | | | | | | | | | | | |
| Val | Arg | Ser | Gly | Gly | Ser | Asn | Met | Asp | Tyr | Trp | Gly | Gln | Gly | Thr | Ser |
| 100 | 105 | 110 | | | | | | | | | | | | | |
| Val | Thr | Val | Ser | Ser | | | | | | | | | | | |
| 115 | | | | | | | | | | | | | | | |

<210> 16

<211> 113

<212> PRT

<213> Mus musculus

<400> 16

| | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Asp | Ile | Gln | Met | Thr | Gln | Thr | Pro | Leu | Thr | Leu | Ser | Val | Thr | Ile | Gly |
| 1 | 5 | 10 | 15 | | | | | | | | | | | | |
| Gln | Pro | Ala | Ser | Ile | Ser | Cys | Lys | Ser | Ser | Gln | Ser | Leu | Leu | Asp | Ser |
| 20 | 25 | 30 | | | | | | | | | | | | | |

1 5 / 2 5

Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser

35

40

45

Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro

50

55

60

Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile

65

70

75

80

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly

85

90

95

Thr His Phe Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys

100

105

110

Arg

<210> 17

<211> 117

<212> PRT

<213> Mus musculus

<400> 17

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Arg Pro Gly Val

1

5

10

15

Ser Val Lys Ile Ser Cys Lys Gly Ser Ser Tyr Lys Phe Thr Asp Tyr

20

25

30

Ala Met His Trp Val Lys Gln Ser His Ala Lys Ser Leu Glu Trp Ile

35

40

45

Gly Val Ile Ser Thr Tyr Tyr Gly Asn Val Lys Tyr Asn Gln Lys Phe

1 6 / 2 5

| | | |
|---|-----|-----|
| 50 | 55 | 60 |
| Lys Gly Lys Ala Thr Met Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr | | |
| 65 | 70 | 75 |
| Met Glu Leu Ala Arg Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys | | 80 |
| | 85 | 90 |
| Ala Arg Ser Ser Gly Ser Tyr Leu Asp Tyr Trp Gly Gln Gly Thr Ser | | 95 |
| | 100 | 105 |
| Val Thr Val Ser Ser | | 110 |
| | 115 | |

<210> 18

<211> 113

<212> PRT

<213> Mus musculus

<400> 18

| | | |
|---|----|----|
| Asp Ile Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Ile Gly | | |
| 1 | 5 | 10 |
| Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser | | 15 |
| | 20 | 25 |
| Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser | | 30 |
| | 35 | 40 |
| Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro | | 45 |
| | 50 | 55 |
| Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile | | 60 |
| 65 | 70 | 75 |
| | | 80 |

1 7 / 2 5

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly

85

90

95

Thr His Phe Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys

100

105

110

Arg

<210> 19

<211> 119

<212> PRT

<213> Mus musculus

<400> 19

Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Thr

1

5

10

15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ala Phe Thr Asn Tyr

20

25

30

Leu Ile Glu Trp Val Lys Gln Arg Pro Gly Gln Gly Pro Glu Trp Ile

35

40

45

Gly Val Ile Asn Pro Gly Ser Gly Asn Ile Arg Tyr Asn Gly Lys Phe

50

55

60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr

65

70

75

80

Met Gln Leu Ser Ser Leu Thr Ser Asp Asp Ser Ala Val Tyr Phe Cys

85

90

95

Ala Arg Asp Ala Tyr Tyr Val Gly Ala Met Asp Tyr Trp Gly Gln Gly

1 8 / 2 5

100

105

110

Thr Ser Val Thr Val Ser Ser

115

<210> 20

<211> 113

<212> PRT

<213> Mus musculus

<400> 20

Asp Val Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Ile Gly

1 5 10 15

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser

20 25 30

Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser

35 40 45

Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro

50 55 60

Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile

65 70 75 80

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly

85 90 95

Thr His Phe Pro Gln Thr Phe Gly Gly Gly Thr Lys Leu Glu Leu Lys

100 105 110

Arg

<210> 21

<211> 119

<212> PRT

<213> Mus musculus

<400> 21

Gln Val Gln Leu Gln Gln Ser Glu Ala Glu Leu Val Arg Pro Glu Thr

1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ser Phe Arg Asn Tyr

20 25 30

Leu Ile Glu Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile

35 40 45

Gly Val Ile Asn Pro Gly Ser Gly Asn Thr Lys Tyr Asn Glu Lys Phe

50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr

65 70 75 80

Met Gln Leu Ser Ser Leu Thr Ser Asp Asp Ser Ala Val Tyr Phe Cys

85 90 95

Ala Arg Asp Gly Tyr Tyr Leu Gly Thr Met Asp Tyr Trp Gly Gln Gly

100 105 110

Thr Ser Val Thr Val Ser Ser

115

<210> 22

<211> 113

20 / 25

<212> PRT

<213> Mus musculus

<400> 22

Asp Ile Val Leu Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Ile Gly
1 5 10 15
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
 20 25 30
Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser
 35 40 45
Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
 50 55 60
Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80
Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly
 85 90 95
Thr His Phe Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 100 105 110
Arg

<210> 23

<211> 119

<212> PRT

<213> Mus musculus

2 1 / 2 5

<400> 23

Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Thr
1 5 10 15
Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ile Asn Asn
20 25 30
Leu Ile Glu Trp Val Gln Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile
35 40 45
Gly Val Ile Asn Pro Gly Ser Gly Asn Val Lys Tyr Asn Glu Lys Phe
50 55 60
Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80
Met Gln Leu Ser Ser Leu Thr Ser Asp Asp Ser Ala Val Tyr Phe Cys
85 90 95
Ala Arg Asp Gly Tyr Tyr Leu Gly Thr Met Asp His Trp Gly Gln Gly
100 105 110
Thr Ser Val Thr Val Ser Ser
115

<210> 24

<211> 113

<212> PRT

<213> Mus musculus

<400> 24

Asp Val Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Ile Gly
1 5 10 15

2 2 / 2 5

Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser

20

25

30

Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser

35

40

45

Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro

50

55

60

Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile

65

70

75

80

Ser Arg Val Glu Ala Glu Asp Leu Gly Ile Tyr Tyr Cys Trp Gln Gly

85

90

95

Thr His Phe Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Leu Lys

100

105

110

Arg

<210> 25

<211> 117

<212> PRT

<213> Mus musculus

<400> 25

Glu Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Arg Pro Gly Val

1

5

10

15

Ser Val Lys Ile Ser Cys Lys Gly Ser Ser Tyr Lys Phe Thr Asp Tyr

20

25

30

Ala Met His Trp Val Lys Gln Ser His Ala Lys Ser Leu Glu Trp Ile

2 3 / 2 5

35 40 45
Gly Val Ile Ser Thr Tyr Tyr Gly Asn Val Lys Tyr Asn Gln Lys Phe
50 55 60
Lys Gly Lys Ala Thr Met Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80
Met Glu Leu Ala Arg Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
85 90 95
Ala Arg Ser Tyr Gly Ser Tyr Leu Asp Tyr Trp Gly Gln Gly Thr Ser
100 105 110
Val Thr Val Ser Ser
115

<210> 26

<211> 112

<212> PRT

<213> Mus musculus

<400> 26

Asp Ile Val Met Thr Gln Thr Pro Leu Thr Leu Ser Val Thr Ile Gly
1 5 10 15
Gln Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asp Ser
20 25 30
Asp Gly Lys Thr Tyr Leu Asn Trp Leu Leu Gln Arg Pro Gly Gln Ser
35 40 45
Pro Lys Arg Leu Ile Tyr Leu Val Ser Lys Leu Asp Ser Gly Val Pro
50 55 60

2 4 / 2 5

Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile

65 70 75 80

Ser Arg Val Glu Ala Glu Asp Leu Gly Val Tyr Tyr Cys Trp Gln Gly

85 90 95

Thr His Phe Pro Trp Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys

100 105 110

<210> 27

<211> 22

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 27

cagctatgaa atacctattg cc

22

<210> 28

<211> 23

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 28

cttttcataa tcaaaatcac cgg

23

<210> 29

<211> 19

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 29

attgcctacg gcagccgct

19

<210> 30

<211> 20

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 30

aaatcaccgg aaccagagcc

20